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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,258	01/30/2004	Michael E. Caine	CS23015RL	8144
20280 7590 11/01/2007 MOTOROLA INC 600 NORTH US HIGHWAY 45 W4 - 39Q LIBERTYVILLE, IL 60048-5343			EXAMINER PIZIALI, JEFFREY J	
			ART UNIT 2629	PAPER NUMBER
			NOTIFICATION DATE 11/01/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/769,258
Filing Date: January 30, 2004
Appellant(s): CAINE ET AL.

Lawrence J. Chapa (Registration No. 39,135)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 15 August 2007 appealing from the Office action mailed 22 December 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on 15 August 2007 has not been entered.

The amendment after final rejection was filed on the same date of filing of the appeal brief (i.e., 15 August 2007), but prior to a final decision by the Board of Patent Appeals and Interferences, and was not entered because:

The amendment was not limited to canceling claims (where the cancellation does not affect the scope of any other pending claims) or rewriting dependent claims into independent form (no limitation of a dependent claim can be excluded in rewriting that claim). See 37 CFR

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41.33(b) and (c). An Advisory Action denying entry of the amendment was mailed on 22 October 2007.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,541,715 B2	Swanson	4-2003
6,356,258 B1	Kato et al.	3-2002
5,852,414 A	Yu et al.	12-1998

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 18, and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. All three pending independent claims have been amended (see the 'Response to Office Action, dated June 12, 2006, and Petition Requesting a One Month Extension' filed 12 October) to newly recite the subject matter of: *the corresponding one of a plurality of switches associated with each of the secondary input selections being in a direct vertical alignment with a portion of the contact surface associated with a particular secondary input selection.*

The instant specification nowhere discusses, teaches, or suggests placing switches and key contact surfaces in "a direct vertical alignment." The term "direct vertical alignment" is wholly absent from the instant application. The specification states, "the switch can be mechanical, electrical or optical" (see Page 5, Lines 24-25); but nowhere specifies "a direct vertical alignment" of any of these switch types relative key contact surfaces.

The specification further states, "In at least one embodiment, the switch 122 could include a popple 124, which has a center that becomes mechanically displaced and makes an electrical connection, with a conductor located beneath the popple 124 when an external force is applied" (see Page 6, Lines 2-4). However, considering that the popple is disclosed as being included as at least a part of the switch itself; there is no express teaching of how the switches and key contact surfaces are aligned relative one another.

3. Claims 2-17 and 20-22 are rejected under 35 U.S.C. 112, first paragraph, as simply being dependent upon corresponding rejected base claims.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation "the portion of the contact surface associated with the particular secondary input selection" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim. Claim 1 earlier merely recites, "each key including a contact surface being associated with a primary input selection and three or more secondary input selections." There is no antecedent basis in claim 1 for a *portion* of the contact surface being associated with any *particular* secondary input selection.

7. Claims 2-17 are rejected under 35 U.S.C. 112, second paragraph, as simply being dependent upon corresponding rejected base claims.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 5-8, and 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by *Swanson (US 6,541,715 B2)*.

Regarding claim 1, Swanson discloses a keypad [Fig. 1; 6] comprising: one or more keys [Figs. 1 & 2; 10], each key including a contact surface [Figs. 2 & 3; 11-14] and being associated with a primary input selection [Fig. 2; numeric characters "1-9" -- for instance] and three or more secondary input selections [Fig. 2; alphabetic characters "A-Z" -- for instance] (see Column 4, Line 48 - Column 5, Line 24), wherein each secondary input selection is associated with a corresponding one of a plurality of switches [Fig. 3; 21-24 -- wherein reference numeral 24 seems not to be illustrated]; and a selection indicator [i.e. "microprocessor" -- which seems not to be illustrated] coupled to the plurality of switches and adapted for detecting one of a primary input selection and a secondary input selection, when the key is actuated, wherein one of the secondary input selections [Fig. 2; alphabetic characters "J, K, I, L" -- for instance] is indicated when only a corresponding one of the plurality of switches [Fig. 3; 21-24 -- wherein reference numeral 24 seems not to be illustrated] is engaged (see Column 3, Lines 38-51), when the key is actuated, and a primary input selection [Fig. 2; numeric character "5" -- for instance] is indicated when any combination of more than one of the plurality of switches are engaged, when the key is actuated wherein the corresponding one of the plurality of switches [Fig. 3; 21-24 -- wherein

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reference numeral 24 seems not to be illustrated] associated with each of the secondary input selections [Fig. 2; alphabetic characters "J, K, I, L" -- for instance] is in a direct vertical alignment (i.e., stacked vertically, or positioned underneath) with the portion of the contact surface [Figs. 2 & 3; 11-14] associated with the particular secondary input selection, where the plurality of switches are positioned and arranged horizontally relative to one another (see Figs. 3 & 4; Column 3, Line 52 - Column 4, Line 2).

Regarding claim 2, Swanson discloses the selection indicator is adapted for indicating a primary input selection when the combination of more than one of the plurality of switches are engaged, substantially simultaneously (i.e. concurrently), when the key is actuated (see Column 3, Lines 54-65).

Regarding claim 3, Swanson discloses said selection indicator includes a processor [i.e. "microprocessor" -- which seems not to be illustrated] coupled to the plurality of switches of the one or more keys (see Column 3, Lines 54-65).

Regarding claim 5, Swanson discloses the one or more primary input selections associated with each of the one or more keys substantially include numeric characters [Fig. 2; numeric characters "1-9" -- for instance] (see Column 4, Line 48 - Column 5, Line 24).

Regarding claim 6, Swanson discloses the primary input selections are primarily associated with number entry [Fig. 2; numeric characters "1-9" -- for instance] (see Column 4, Line 48 - Column 5, Line 24).

Regarding claim 7, Swanson discloses the three or more secondary input selections associated with each of the one or more keys substantially include non-numeric characters [Fig. 2; alphabetic characters "A-Z" -- for instance] (see Column 4, Line 48 - Column 5, Line 24).

Regarding claim 8, Swanson discloses the secondary input selections are primarily associated with text entry [Fig. 2; alphabetic characters "A-Z" -- for instance] (see Column 4, Line 48 - Column 5, Line 24).

Regarding claim 11, Swanson discloses the contact surface [Figs. 2 & 3; 11-14] of each of the one or more keys has a plurality of comers, wherein each of the plurality of switches corresponding to each of the secondary input selections are substantially located at a corresponding one of the comers of the contact surface (see Column 3, Lines 18-37).

Regarding claim 12, Swanson discloses the contact surface for at least some of the one or more keys is a triangular shape (i.e. pyramidal shape), having three comers (see Figs. 3 & 4; Column 2, Lines 62-67).

Regarding claim 13, Swanson discloses the orientations in one or more directions of adjacent ones of the one or more keys are not aligned (see Figs. 1 & 4 -- wherein when one of a key member's facets 11-14 is depressed, inherently adjacent keys are not perfectly aligned).

Regarding claim 14, Swanson discloses adjacent ones of the one or more keys having a triangular shape (i.e. pyramidal shape) are oriented in opposite directions (see Figs. 1, 3 & 4; Column 2, Lines 62-67 -- wherein with the "#1" key's facet 13 pressed to the upper-left and the "#2" key's facet 11 pressed to the lower-right, inherently these two adjacent pyramidal/triangular keys would be oriented in opposite directions).

Regarding claim 15, Swanson discloses said keypad is incorporated as part of a portable electronic device (see Column 2, Lines 55-61).

Regarding claim 16, Swanson discloses said portable electronic device is a wireless communication device (see Column 2, Lines 55-61).

Regarding claim 17, Swanson discloses said wireless communication device is a cellular telephone (see Column 2, Lines 55-61).

Regarding claim 18, this claim is rejected by the reasoning applied in rejecting claims 1 and 15; furthermore Swanson discloses an electronic device (see Column 2, Lines 55-61) with a keypad [Fig. 1; 6] comprising: a key [Figs. 1 & 2; 10] associated with a primary character [Fig.

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2; numeric character "5" -- for instance] having a first contact [Fig. 3; 21] associated with a first secondary character [Fig. 2; alphabetic character "J" -- for instance], a second contact [Fig. 3; 22] associated with a second secondary character [Fig. 2; alphabetic character "K" -- for instance], and a third contact [Fig. 3; 23] associated with a third secondary character [Fig. 2; alphabetic character "I" -- for instance] (see Column 4, Line 48 - Column 5, Line 24); the first contact, the second contact and the third contact being positioned and arranged horizontally relative to one another (see Figs. 3 & 4); and the key including a contact surface having a portion [Figs. 2 & 3; 11-14] associated with each of the primary character [Fig. 2; numeric character "5" -- for instance], the first secondary character [Fig. 2; alphabetic character "J" -- for instance], the second secondary character [Fig. 2; alphabetic character "K" -- for instance] and the third secondary character [Fig. 2; alphabetic character "I" -- for instance], where the portion of the contact surface associated with each of the secondary characters is in a direct vertical alignment (i.e., stacked vertically, or positioned above) with the associated contact; wherein closure of only one of the first contact, the second contact and the third contact during a predetermined time [i.e. when the device is operatively powered on, for instance] period enters the associated secondary character into the electronic device (see Column 3, Lines 38-51); and wherein closure of two or more of the first contact, the second contact and the third contact during the predetermined time period enters the primary character into the electronic device (see Column 3, Line 52 - Column 4, Line 2).

Regarding claim 19, this claim is rejected by the reasoning applied in rejecting claims 1 and 18; furthermore Swanson discloses a method of detecting the selection of one of a plurality

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of key inputs associated with a single key [Figs. 1 & 2; 10], where said key actuations include a primary input selection [Fig. 2; numeric character "5" -- for instance] and three or more secondary input selections [Fig. 2; alphabetic characters "J, K, I, L" -- for instance], said method comprising: monitoring [via a "microprocessor"] the state of three or more switches [Fig. 3; 21-24 -- wherein reference numeral 24 seems not to be illustrated] horizontally positioned and arranged relative to one another (see Figs. 3 & 4), each switch being associated with and directly vertically aligned (i.e., stacked vertically, or positioned underneath) with a corresponding one of the three or more secondary input selections; detecting a key actuation; if only one of the switches is engaged when the key actuation is detected, indicating the selection of the secondary input positioned in direct vertical alignment (i.e., stacked vertically, or positioned above) with the engaged switch (see Column 3, Lines 38-51); and if any combination of a plurality of switches is engaged, when the key actuation is detected, indicating the selection of the primary input (see Column 3, Line 52 - Column 4, Line 2).

Regarding claim 20, this claim is rejected by the reasoning applied in rejecting claim 2.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4, 9, 10, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Swanson (US 6,541,715 B2)* in view of *Kato et al (US 6,356,258 B1 -- hereafter referred to as Kato)*.

Regarding claim 4, although it's arguable Swanson's hand-held computer (aka cellular phone) and microprocessor must inherently comprise at least one memory element to attain any sort of real-world functionality; Swanson does not expressly disclose that said keypad further comprises a memory element for storing one or more sets of prestored instructions used by the processor in detecting the selection of a primary input and a secondary input.

However, Kato does disclose a keypad [Fig. 1; 2] comprising a memory element [Fig. 3; 103] (see Column 1, Lines 30-37; Column 17, Lines 52-58; and Column 31, Lines 3-11) for storing one or more sets of prestored instructions used by a processor [Fig. 3; 102] in detecting a selection of a primary input [Fig. 1; numeric character "7" for instance] and a secondary input [Fig. 1; alphabetic characters "KGF" for instance] (see Column 16, Lines 30-36). Swanson and Kato are analogous art, because they are from the shared inventive field of multifunction alphanumeric buttons for keypads. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to integrate Kato's memory element into Swanson's keypad device, so as to set the processor to properly execute its desired function(s) when in operation (see Kato: Column 17, Lines 39-58).

Regarding claim 9, Swanson discloses a text entry mode, wherein when in text entry mode the primary input selections for the one or more keys substantially include numeric characters [Fig. 2; numeric characters "1-9" -- for instance] and the secondary input selections

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for the one or more keys substantially include non-numeric characters [Fig. 2; alphabetic characters "A-Z" -- for instance] (see Column 4, Line 48 - Column 5, Line 24). However, Swanson does not expressly disclose a number entry mode.

However, Kato does disclose a mode selector [Fig. 3; 103] coupled to a selection indicator [Fig. 3; 102], said mode selector adapted for distinguishing between a number entry mode ["numeric input mode"] and a text entry mode ["English input mode" for instance] (see Column 18, Lines 64-67), wherein when in number entry mode a secondary input selection [Fig. 1; alphabetic characters "KGF" for instance] detected for at least one of the one or more keys will be replaced by the corresponding primary input [Fig. 1; numeric character "7" for instance] (see Column 17, Lines 51-59). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to integrate Kato's selectable number entry mode into Swanson's keypad device, so as to realize a highly versatile keyboard input apparatus adaptable to various input modes, and thereby improve manipulation and numeric input operation (see Kato: Column 6, Lines 4-15).

Regarding claim 10, Swanson discloses one or more of the secondary input selections for at least one or more of the one or more keys is associated with multiple different input selections [Fig. 2; 14 punctuation symbols "?" and "/" -- for instance], wherein detecting the selection of the secondary input selection associated with multiple different input selections selects a first one of the associated multiple secondary input selections (see Column 5, Lines 25-31). Swanson also discloses detection of repeated sequential selections of inputs associated with multiple different input selections cycles through input selections (see Column 1, Lines 18-27). Swanson does not

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expressly disclose detection of repeated sequential selections of the secondary input selection associated with multiple different input selections cycles the original input selection between the associated multiple secondary input selections.

However, Kato does disclose one or more of the secondary input selections [Fig. 1; alphabetic characters "KGF"] for at least one or more of the one or more keys [Fig. 1; 2] is associated with multiple different input selections (see Column 14, Lines 35-42), wherein detecting the selection of the secondary input selection associated with multiple different input selections selects a first one [Fig. 5; "K"] of the associated multiple secondary input selections, and wherein detection of repeated sequential selections of the secondary input selection associated with multiple different input selections cycles the original input selection between the associated multiple secondary input selections [Fig. 5; "G" and "K"] (see Column 18, Line 64 - Column 19, Line 10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to integrate Kato's input selection cycling functionality/method into Swanson's keypad device, so as to further miniaturize the key input apparatus while making key manipulation easy to remember and improving operability (see Kato: Column 19, Lines 39-67).

Regarding claim 21, this claim is rejected by the reasoning applied in rejecting claim 9.

Regarding claim 22, this claim is rejected by the reasoning applied in rejecting claim 10.

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12. Claims 12-14 are further rejected under 35 U.S.C. 103(a) as being unpatentable over *Swanson (US 6,541,715 B2)* in view of *Yu et al (US 5,852,414 A -- hereafter referred to as Yu)*.

Regarding claim 12, Swanson discloses the contact surface for at least some of the one or more keys is a triangular shape (i.e. pyramidal shape), having three corners (see Figs. 3 & 4; Column 2, Lines 62-67). However, in the event that it is shown that the applied prior art of Swanson does not disclose the claimed triangular shaped keys with sufficient specificity, the invention is obvious because the prior art of Yu specifically discloses this claimed subject matter.

More particularly, Yu discloses a contact surface for at least some of one or more keys is a triangular shape, having three corners (see Fig. 2; Column 1, Line 54 - Column 2, Line 14). Swanson (US 6,541,715 B2) and Yu are analogous art, because they are from the shared inventive field of multifunction alphanumeric buttons for keypads. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to replace Swanson's pyramidal shaped keys with Yu's triangular shaped keys, so as to eliminate stress in searching for the next character in a data string via a simplified 10-keypad structure (see Yu: Column 1, Lines 25-37).

Regarding claim 13, Swanson discloses the orientations in one or more directions of adjacent ones of the one or more keys are not aligned (see Figs. 1 & 4 -- wherein when one of a key member's facets 11-14 is depressed, inherently adjacent keys are not perfectly aligned). However, in the event that it is shown that the applied prior art of Swanson does not disclose the

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claimed unaligned triangular shaped keys with sufficient specificity, the invention is obvious because the prior art of Yu specifically discloses this claimed subject matter.

More particularly, Yu discloses the orientations in one or more directions of adjacent ones of the one or more keys are not aligned (see Fig. 2; Column 1, Line 54 - Column 2, Line 14).

Regarding claim 14, Swanson discloses adjacent ones of the one or more keys having a triangular shape (i.e. pyramidal shape) are oriented in opposite directions (see Figs. 1, 3 & 4; Column 2, Lines 62-67 -- wherein with the "#1" key's facet 13 pressed to the upper-left and the "#2" key's facet 11 pressed to the lower-right, inherently these two adjacent pyramidal/triangular keys would be oriented in opposite directions). However, in the event that it is shown that the applied prior art of Swanson does not disclose the claimed oppositely oriented triangular shaped keys with sufficient specificity, the invention is obvious because the prior art of Yu specifically discloses this claimed subject matter.

More particularly, Yu discloses adjacent ones of the one or more keys having a triangular shape are oriented in opposite directions (see Fig. 2; Column 1, Line 54 - Column 2, Line 14).

(10) Response to Argument

A. Rejections under 35 U.S.C. 112

1. Whether claims 1-22 have been improperly rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 1-22 (in response to the arguments on pages 5-7 of the brief)

On 12 October 2006, the appellants added the subject matter of "*each key including a contact surface and... wherein the corresponding one of the plurality of switches associated with each of the secondary input selections is in a **direct vertical alignment** with the portion of the contact surface associated with the particular secondary input selection, where the plurality of switches are positioned and **arranged horizontally** relative to one another*" (see page 4 of the amendment filed 12 October 2006). In the final rejection mailed 22 December 2006, this newly added subject matter was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

At the time of the amendment, the appellants did not point to any section of the specification as lending support for the newly added subject matter (see pages 9-10 of the amendment filed 12 October 2006). Now in the brief, the appellants allege for the first time that

support for the amended subject matter may be found on page 5, lines 21-24 and page 6, lines 11-12 of the instant specification.

The relied upon portions of the specification state, "*The key [Fig. 2; 102] is generally triangular in shape. At each vertex of the key [Fig. 2; 102], the key includes a corresponding switch [Fig. 2; 122]. The switches [Fig. 2; 122] can take one of many different forms, but generally would be engaged, when the corresponding one of the vertices is depressed*" (see page 5, lines 21-24 of the specification), and "*Locating the switch at a vertex gives the user a discrete location to engage, if and when it is desired to indicate a secondary input selection*" (see page 6, lines 11-12 of the specification).

In the brief, the appellants argue, "*FIG. 2 highlights the outline of a key 102 (i.e. the corresponding layout of the same), and an exemplary circuit schematic, which includes multiple switches 122, each of which is located at a respective vertex of the key 102 (see page 5, lines 21-22 of the present specification), which is engaged when the corresponding one of the vertices is depressed (see page 5, lines 22-24). Placement of the respective switches at the vertex of the key gives the user a discrete location to engage, if and when it is desired to indicate a secondary input selection (see page 6, lines 11-12)*" (see page 6 of the brief).

With all due respect, the examiner finds the appellants newly introduced arguments unpersuasive. The specification only goes so far as to disclose, "*locating* the switch at a [key] vertex" (see page 6, line 11 of the specification). This is a far cry from teaching the claimed

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subject matter of, *"the plurality of switches [being] positioned and arranged horizontally relative to one another"* and *"the corresponding one of the plurality of switches associated with each of the secondary input selections is in a **direct vertical alignment** with the portion of the contact surface associated with the particular secondary input selection."*

The original specification nowhere discusses, teaches, or otherwise suggests placing switches and key contact surfaces in *"a direct vertical alignment,"* nor positioning and arranging the switches *"horizontally relative to one another."* The term *"direct vertical alignment"* is wholly absent from the instant application. In fact, neither the term *"horizontal"* nor *"vertical"* appears anywhere in the specification. The specification states, *"the switch can be mechanical, electrical or optical"* (see page 5, lines 24-25 of the specification); but nowhere specifies *"a direct vertical alignment"* of any of these switch types relative key contact surfaces.

The specification further states, *"In at least one embodiment, the switch [Fig. 2; 122] could include a popple [Fig. 2; 124], which has a center that becomes mechanically displaced and makes an electrical connection, with a conductor located beneath the popple [Fig. 2; 124] when an external force is applied"* (see Page 6, Lines 2-4). However, considering that the popple (curved by nature) is disclosed as being included as at least a part of the switch itself; there is no express teaching of how the switches and key contact surfaces are aligned relative one another.

The appellants rely solely upon Figure 2 to illustrate the physical locations of and correspondence between the switches [Fig. 2; 122] and the key vertices [Fig. 2; 124]. However,

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Figure 2 is clearly disclosed as "*an exemplary circuit schematic*" (e.g., see page 4, line 3 and page 5, line 19). One having ordinary skill in the art would readily appreciate that such a "*circuit schematic*" is little more than a simplified conventional pictorial representation of an electrical circuit. That is to say, the circuit schematic shown in Figure 2 is merely a symbolic illustration of the instant invention. The arrangement of the components and interconnections of the circuit schematic shown in Figure 2 does not correspond to their physical locations in the finished device.

The instant specification does anywhere indicate Figure 2 is drawn to scale, and provides no explicit indication to an artisan that the switches and key contact surfaces are "*in a direct vertical alignment*," or that the switches are "*positioned and arranged horizontally relative to one another*."

2. Whether claims 1-17 have been improperly rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-17 (in response to the arguments on pages 7-8 of the brief)

On 12 October 2006, the appellants added the subject matter of "*the corresponding one of the plurality of switches associated with each of the secondary input selections is in a direct vertical alignment with the portion of the contact surface associated with the particular*

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secondary input selection, where the plurality of switches are positioned and arranged horizontally relative to one another" (see page 4 of the amendment filed 12 October 2006). In the final rejection mailed 22 December 2006, this newly added subject matter was rejected under 35 U.S.C. 112, second paragraph, as being indefinite due at least to insufficient antecedent basis.

On 20 April 2007, the examiner initiated a phone interview with the appellants' representative (Mr. Lawrence J. Chapa -- Registration No. 39,135) in an attempt to suggest claim language alterations to better clarify and distinguish the instantly claimed invention. At the time, the appellants' representative expressed curt disinterest in entertaining any notions of revising the claim language -- interrupting the examiner before the claim language changes could be explained, telling the examiner to "*just cut to the chase*," and ending the call by declaring, "*We are entitled to broader claim language*."

Four months later, the appellants submitted an amendment after final rejection on the same day of filing the appeal brief (i.e., 15 August 2007). The amendment was solely drawn to correcting the definitiveness and clarity of claim language. However, the amendment was not limited to canceling claims (where the cancellation does not affect the scope of any other pending claims) or rewriting dependent claims into independent form (no limitation of a dependent claim can be excluded in rewriting that claim). See 37 CFR 41.33(b) and (c). Therefore, the amendment was not entered (see the Advisory Action mailed 22 October 2007).

The appellants, anticipating denial of entry of the after final amendment under 37 CFR 41.33(b) and (c), argue in the brief that antecedent basis for "*the portion of the contact surface associated with the particular secondary input selection*" exists, because "*the claimed portion(s) of the contact surface are **inherent** relative to the contact surface of the key, especially where multiple associated switches corresponding to separate secondary input selections can be separately engaged dependent upon the manner in which the contact surface is engaged and the key is actuated, as otherwise provided in the claims*" (see page 7 of the brief).

The appellants continue, "*As a result, the inherent features do not need to be separately positively recited to be clearly understood by one skilled in the art, and a portion of the contact surface would be understood to be associated with **less than all of the contact surface** and more particularly to the part that corresponds to a secondary input selection (relative to the portion of the claim in question and the corresponding context)*" (see pages 7-8 of the brief).

However, respectfully, the examiner finds the appellants inherency arguments unpersuasive. For instance, the present claim language is broadly indefinite enough that it could reasonably well read upon a keypad which distinguishes between primary and secondary inputs based on the angle of key depression (e.g., 90 degree vs. 45 degree key angle depression), or the degree of depression force (e.g., hard, mild, soft depression forces), or even sensed user finger temperature (e.g., distinguishing between hot and cold skin temperatures), or based on running different application programs (e.g., numeral entry when running a software calculator, and alphabetic entry when running a word processor).

Present claim 1 language merely recites primary and secondary input selections "*associated*" with a plurality of switches. Those switches could be turned on/off for a host of reasons other than distinct key portions (comprising "*less than all of the contact surface*") being depressed.

One skilled in the art would not understand the metes and bounds of claim 1 as the appellants allege. The appellants have simply provided one possible interpretation of the present claim language, incorrectly alleging this is the one and only possible interpretation.

Furthermore, the disputed claim language of "*the corresponding one of the plurality of switches associated with each of the secondary input selections is in a direct vertical alignment with the portion of the contact surface associated with the particular secondary input selection, where the plurality of switches are positioned and arranged horizontally relative to one another,*" renders it unclear whether each switch is in direct vertical alignment with the same shared portion of the key contact surface, or rather whether each switch is in direct vertical alignment with a unique and distinct portion of the overall key contact surface.

Additionally, for example, the disputed claim language renders it unclear whether there is a single shared "particular secondary input selection" associated with a plurality of distinct contact surface portions; or whether there are a plurality of distinct "particular secondary input

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selections" associated with a single common key contact surface. The scope of claim 1 is both vague and indefinite.

B. Rejections under 35 U.S.C. 102

3. Whether claims 1-3, 5-8 and 11-20 have been improperly rejected under 35 U.S.C. § 102(b) as being anticipated by Swanson, US Patent No. 6,541,715.

Claims 1-3, 5-8 and 11-20 (in response to the arguments on pages 8-10 of the brief)

On 12 October 2006, the appellants added the subject matter of "*the corresponding one of the plurality of switches associated with each of the secondary input selections is in a direct vertical alignment with the portion of the contact surface associated with the particular secondary input selection*" (see page 4 of the amendment filed 12 October 2006). In the final rejection mailed 22 December 2006, this newly added subject matter was rejected under 35 U.S.C. § 102(b) as being anticipated by Swanson.

The appellants currently contend, "*In Swanson, '715, there is no **direct vertical alignment** between the portion of the contact surface associated with a secondary input and the associated switch*" (see page 9 of the brief). The examiner respectfully disagrees with the appellants' contention.

Swanson discloses one or more keys [Figs. 1 & 2; 10], each key including a contact surface [Figs. 2 & 3; 11-14] and being associated with a primary input selection [Fig. 2; numeric characters "1-9" -- for instance] and three or more secondary input selections [Fig. 2; alphabetic characters "A-Z" -- for instance] (see Column 4, Line 48 - Column 5, Line 24), wherein when the key is actuated, one of the secondary input selections [Fig. 2; alphabetic characters "J, K, I, L" -- for instance] is indicated when only a corresponding one of the plurality of switches [Fig. 3; 21-24 -- wherein reference numeral 24 seems not to be illustrated] is engaged (see Column 3, Lines 38-51), and a primary input selection [Fig. 2; numeric character "5" -- for instance] is indicated when any combination of more than one of the plurality of switches are engaged, when the key is actuated wherein the corresponding one of the plurality of switches [Fig. 3; 21-24 -- wherein reference numeral 24 seems not to be illustrated] associated with each of the secondary input selections [Fig. 2; alphabetic characters "J, K, I, L" -- for instance] is in a direct vertical alignment (i.e., stacked vertically, or positioned underneath) with the portion of the contact surface [Figs. 2 & 3; 11-14] associated with the particular secondary input selection, where the plurality of switches are positioned and arranged horizontally relative to one another (see Figs. 3 & 4; Column 3, Line 52 - Column 4, Line 2).

The instant invention nowhere defines what is meant by the newly added claim language of "*a direct vertical alignment*." However, it seems plain enough from Swanson's Figures 3 and 4 that the key contact surfaces [Figs. 2 & 3; 11-14] are vertically stacked with, and positioned directly above (i.e., in "*a direct vertical alignment*" with) the plurality of switches [Fig. 3; 21-24 -- wherein reference numeral 24 seems not to be illustrated].

Essentially, in one embodiment, Swanson's keys [Fig. 1; 10] rock up-&-down and side-to-side, dependent upon the angle of key depression, in the process selecting one or more switches [Fig. 3; 21-24] positioned underneath the key contact surfaces [Figs. 2 & 3; 11-14].

Despite the fact that Swanson's switches [Fig. 3; 21-24] are clearly illustrated as being located underneath the key contact surfaces [Figs. 2 & 3; 11-14]; and despite the fact that the instant invention nowhere defines what is meant by "*a direct vertical alignment*," the appellants are adamant that Swanson's switches associated with each of the secondary input selections are not in a "direct vertical alignment" with the portion of the contact surface associated with the particular secondary input selection.

The appellants argue Swanson's "*keys are engaged in a manner in which the associated switches are located opposite the portion of the contact surface along a diagonal*" (see page 9 of the brief). However, the applicants are acting as though there can only be one type of switch "*association*." This is simply not the case.

The examiner notes that the instant invention nowhere provides a definition for what is meant by the claimed "*association*" between the switches, contact surfaces, and secondary input sections. One having ordinary skill in the art would recognize "*associated*" here to mean "*united, combined, connected, joined, and/or related within a single whole electronic device.*"

Accordingly, where the "*association*" is taken to mean "*combined directly above and below*" each other:

Key contact surface [Fig. 3; 11] is "*associated*" with switch [Fig. 3; 24].

Key contact surface [Fig. 3; 12] is "*associated*" with switch [Fig. 3; 21].

Key contact surface [Fig. 3; 13] is "*associated*" with switch [Fig. 3; 22].

Key contact surface [Fig. 3; 14] is "*associated*" with switch [Fig. 3; 23].

For example, if the user depresses the key contact surface [Fig. 3; 12] straight down, then switch [Fig. 3; 21] will be depressed, and a secondary input will be selected.

Additionally, where the "*association*" is taken to mean "*combined opposite each other along a diagonal*":

Key contact surface [Fig. 3; 11] is "*associated*" with switch [Fig. 3; 22].

Key contact surface [Fig. 3; 12] is "*associated*" with switch [Fig. 3; 23].

Key contact surface [Fig. 3; 13] is "*associated*" with switch [Fig. 3; 24].

Key contact surface [Fig. 3; 14] is "*associated*" with switch [Fig. 3; 21].

For example, if the user depresses the key contact surface [Fig. 3; 12] at a leftward diagonal, then switch [Fig. 3; 23] will be depressed, and a secondary input will be selected.

The appellants allege, "*the Examiner appears to ignore the phrase 'direct vertical alignment', and/or fails to give the phrase patentable weight*" (see page 9-10 of the brief). However, the examiner explicitly detailed in the art rejection of the claims and in the "Response to Arguments" section of the Final Rejection (mailed 22 December 2006) that the phrase "*direct vertical alignment*" (absent any teaching of the phrase in the instant specification) has been taken to mean "*stacked vertically, or positioned underneath/above*" relative to one another (e.g., see pages 5 and 16 of the Final Rejection mailed 22 December 2006).

None the less, the appellants continue to contend Swanson, "*in fact, teaches an alignment that is not directly vertically aligned, but that is purposefully offset horizontally relative to the related portion of the contact surface and the corresponding switch to enable an alternative manner of actuation, which pivots the key as opposed to allowing for a more direct downward application of force for purposes of initiating a corresponding actuation of the associated switch*" (see page 10 of the brief).

As explained above, the examiner continues to respectfully dispute the appellants contention regarding Swanson's preferred inventive embodiment. However, should the Board of Patent Appeals and Interferences determine that this embodiment of Swanson neglects to read on

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the instantly claimed concept of "*direct vertical alignment*" with sufficient specificity; the examiner humbly points to an alternate embodiment disclosed by Swanson:

"According to an alternative embodiment (not shown), the key members are mounted in a fixed position and are not moved by the application of force applied to the respective facets. In this embodiment, each of the facets is provided with a pressure sensitive means, such as piezo-electric sensor for generating signals in response to the application of force to the respective facets. The detection force would be moderate but sufficiently high to avoid inadvertent generation of signals by mere brushing contact with facets. In another variant (not shown), each key member has a truncated conical or pyramidal frame with spaces receiving individual push buttons, wherein the pressing of one button does not change the position of the key member" (see Column 5, Lines 40-53 of Swanson)

Accordingly, in Swanson's alternative embodiment, the corresponding one of a plurality of pressure sensing type switches associated with each of the secondary input selections [Fig. 2; alphabetic characters "A-Z" -- for instance] is in a direct vertical alignment with the portion of the contact surface [Figs. 2 & 3; 11-14 -- i.e., the facets] associated with the particular secondary input selection.

As such, the examiner respectfully maintains that claims 1-3, 5-8 and 11-20 are anticipated by Swanson (US Patent No. 6,541,715).

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C. Rejections under 35 U.S.C. 103

4. Whether claims 4, 9, 10, 21 and 22 have been improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson, '715, in view of Kato et al., US Patent No. 6,356,258.

Claims 4, 9, 10, 21 and 22 (in response to the arguments on page 10 of the brief)

The appellants here reference their arguments in relation to independent claims 1 and 19. In the interests of brevity, the examiner does the same.

5. Whether claims 12-14 have been improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson, '715, in view of Yu et al., US Patent No. 5,852,414.

Claims 12-14 (in response to the arguments on page 11 of the brief)

The appellants here reference their arguments in relation to independent claim 1. In the interests of brevity, the examiner does the same.

(11) Related Proceeding(s) Appendix

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No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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